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The Intensity and Impact of Internal Migration

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With the decline of spatial variations in fertility and mortality rates, internal migration has now become the primary demographic process shaping the distribution of populations within countries. Globally, internal migration outnumbers international migration by a factor of 4 to 1 (Bell et al 2015). While growing attention has been dedicated to international migration, migration between regions within countries remains less well understood. The general dearth of internal migration studies, data, and indicators can be traced to the complexities of human mobility and the absence of internationally agreed standards for the collection and measurement of internal migration data. Thus, while comparative indicators of fertility and mortality are routinely reported, statistical indicators of internal migration are conspicuous by their absence.

In recent years, significant progress has been made in developing a rigorous framework for cross-national comparisons of internal migration, particularly through the IMAGE project[1] (Internal Migration Around the GlobE) which (1) proposed a suite of statistical indicators, (2) developed methods to generate estimates where these metrics are not collected directly, and (3) made cross-national comparisons using a global repository of data. The *Aggregate Crude Migration Intensity* (ACMI) and the *Migration Effectiveness Index* (MEI) are two of these indicators.

The ACMI captures the intensity of internal migration, measuring all changes of residential address in a given interval. Few countries collect this information directly, but the IMAGE project generated robust estimates by measuring migration rates at multiple random geographical scales using the method proposed by Courgeau et al (2012). The MEI, which ranges from 0 to 100, quantifies the balance between regional flows and counterflows, with low values indicating largely reciprocal exchanges between regions, and high values suggesting strongly directional flows. Measured at multiple geographical scales, MEI values are remarkably stable with scale when computed for 20 regions or more (Rees et al 2017). Together, intensity and effectiveness drive the redistributive impact of internal migration on national populations.

The ACMI varies widely across Europe (Rowe, 2018). It ranges from just over 1% per annum in Macedonia to over 18% in France and Iceland, with levels close to the global mean in Hungary and Austria. A clear geographical pattern underpins these variations, ranging from high intensities in Nordic and Western European countries, including the United Kingdom, to low intensities in Southern and Eastern Europe, including Spain, Italy, and former members of the Soviet Union. Internal migration can be shaped by interaction with international migration by intensifying mobility to getaway cities, which may account for the higher than expected levels of internal migration in Georgia, Armenia, Albania, Bosnia-Herzegovina, and Montenegro.

Ranking countries by their MEI values reveals a moderate inverse relationship with the ACMI (Pearson r=-0.41) when outliers are removed (France and Montenegro). In countries where migration intensities are high, inter-regional flows tend to be closely balanced, whereas many of those with low migration intensities are undergoing higher levels of redistribution. At a global scale accumulating evidence suggests these patterns are driven by complex links with economic development, external migration, and a range of social and demographic variables.

In Northern and Western Europe, the redistributive impact of high internal migration intensity is moderated by low levels of migration effectiveness (closely balanced flows)(Rowe et al., 2019). By contrast, migration in the South and East tends to be highly asymmetrical, but its impact on population redistribution is offset by low migration intensity. Deviating from this general pattern are marked exceptions, for example, France and Montenegro, where the ACMI and MEI are both high.

[1] https://imageproject.com.au/

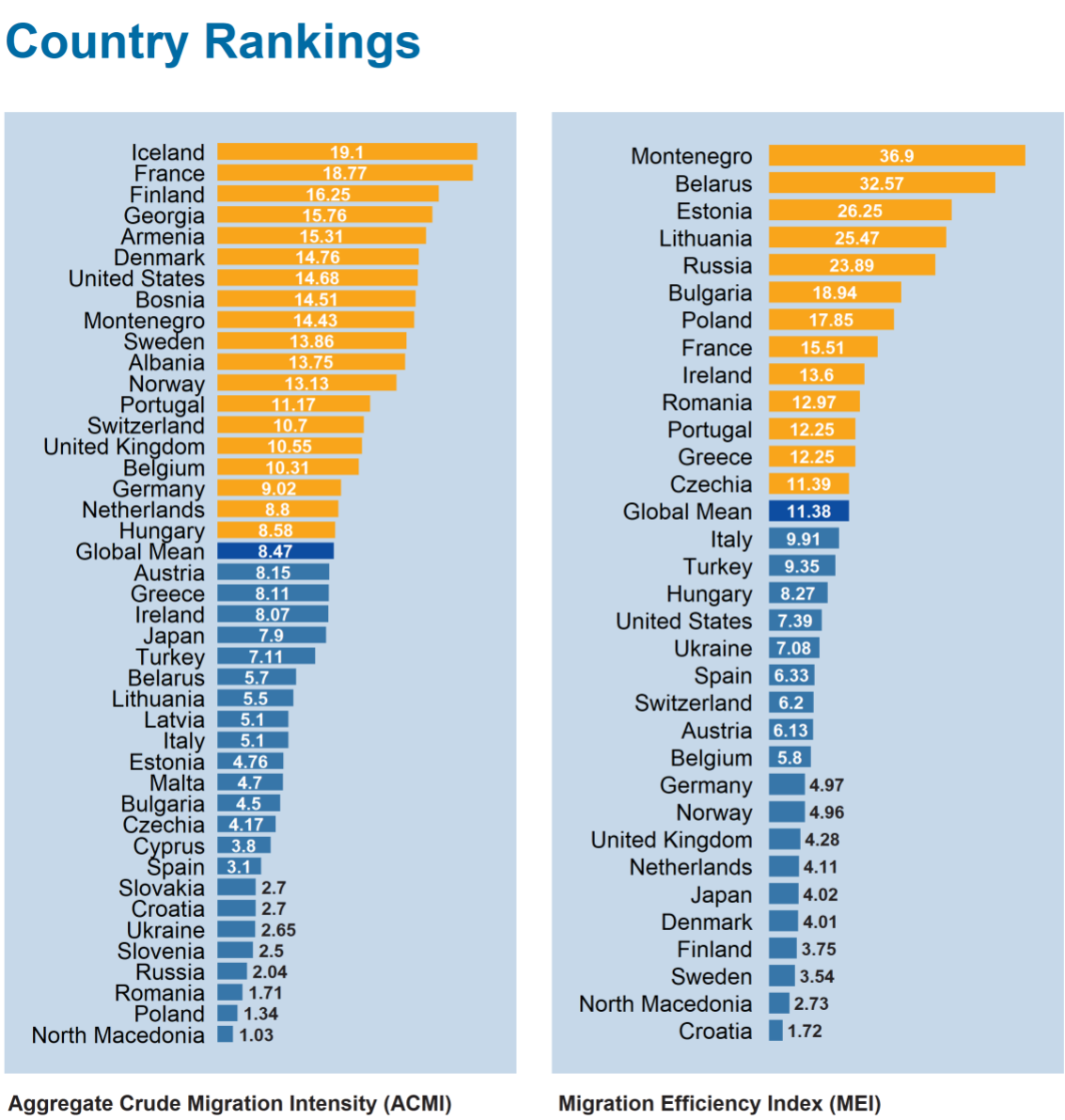

Figure 1. Measure of the Intensity and Impact of Internal Migration. ACMI measures all changes of residential addresses over a one-year interval. MEI measures the degree of balance between internal migration flows and counter flows. MEI is reported for countries with data for 20 regions or more.

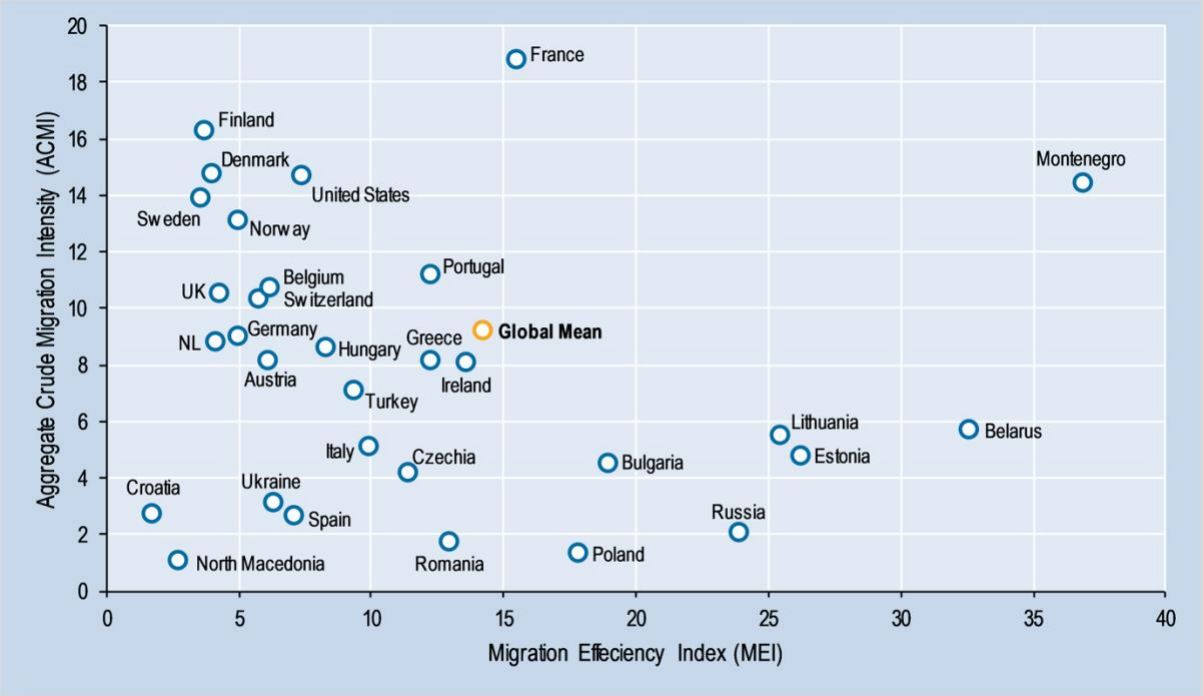

Figure 2. The Relationship between the Intensity and Effectiveness of Internal Migration. Only countries with data for 20 regions or more are reported.

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